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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/502,081

Applicant(s)

NIELSEN, PETER DAM

Examiner

DUNG LAM

Art Unit

2617

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11, 13, 14 and 16-29 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-11, 13, 14 and 16-29 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/06)
Paper No(s)/Mail Date ____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims **1-6, 9-10, 13, 27 - 29** are rejected under 35 U.S.C. 103(a) as being unpatentable over Wycherley et al. (US Patent No. 2002/0037738, hereinafter **Wycherley**) in view of Engstrom et al. (US Publication No. 2003/0017848, **Engstrom**) further in view of **Gum** (US Patent No. 6,477,390) further in view of **Inomata** (US 20010027032).

3. Regarding **claim 1**, **Wycherley** teaches a method of operating electric circuitry included in an exchangeable cover part (memory chip [16]) for supporting a user interface of a wireless terminal, said wireless communication terminal and said user exchangeable cover part are electrically interconnected by means of an electrical connector having a plurality of pins (Abstract, [0032, 0033]), said method comprises:

- identifying a type of said user exchangeable cover part ([007]); by
- operating the at least one connector pin in an identification state for sensing a value included in a cover type indicator ([10, 31, 32, 07-08]), wherein the at least one

connector pin operating in the identification state is a ... bi-mode signal pin (each peg can have a zero or one status, thus reads on "bi-mode", [32]); and

- after identifying the type of cover, selecting a data mode corresponding to the identified cover type ([10, 31, 32, 07-08, 10, 11, 18])
- operating ... in an operation state for operating the electric circuitry of said user exchangeable cover part based on the identification of the cover type ([8, 10, 11, 18]);

However, Wycherley does not specifically teach the details of operating **the at least one connector pin** in an operation state and the at least one connector pin is a **bi-directional** signal pin. In an analogous art, **Engstrom** teaches the step of operating a pin in an operation state for operating the electric circuitry of a user exchangeable cover and a bidirectional pin by exchanging operating data embedded in an electronic component between the cover and the phone ([0023-0024,0021]). Furthermore, it is also well known in the art to operate a pin as an interface to transfer data.

Therefore, it would have been obvious for one of ordinary skill in the art at the time of the invention to use Wycherley's teaching of using a pin to identify the type of cover in combination with Engstrom's teaching of using a pin to transfer different types of personalized data to the phone because this combination would allow a greater amount of customized data or options to be transferred from the cover to the phone.

However, **Wycherly** and **Engstrom** do not teach enabling of user-defined mapping with the keys and sound creating applications. In an analogous art, **Gum** teaches a user-defined mapping of a set of audio tones to one or more keys (Col. 2 L9-14, Col. 4-6 especially C6 In 30-65, Figs. 1, 3-4). Therefore, it would have been obvious

for one skill in the art at the time of the invention to combine **Wycherly and Engstrom's** exchangeable cover and Gum's teaching of a user-defined mapping of enunciating certain audio tones with the certain keys because the combination provides a user-friendly feature in reassuring users in dark environment or sight-impaired users that the correct buttons were pressed based on the produced sound (Col. 1 L35-49).

However, they do not explicitly teach setting a corresponding power supply level to be supplied by another one of the connector pins. In an analogous art, **Inomata** teaches the concept of after identifying a particular type of removable module/card, then setting a corresponding power supply level to be supplied by another one of the connector pins based on the detected type of removable module/card ([0028-0033]). Therefore, it would have been obvious for one skill in the art at the time of the invention to combine **Wycherly, Engstrom and Gum's** exchangeable cover and **Inomata's** teaching the concept of after identifying a particular type of removable module/card, a corresponding power supply level to be supplied by another one of the connector pins so that the most suitable power level is supplied according to the functionalities that the module/card can provide which is based on the identified type of module. This would allow result in a more efficient usage of power by providing different power levels as needed.

Regarding **claim 2, Wycherley, Engstrom, Gum and Inomata** teach all the limitations as in claim 1. **Wycherley** further teaches that in an alternative embodiment the identity can be identified using a resistance sensor (**Wycherley**, [33]) which has to read a resistor value from a cover type indicator.

4. Regarding **claim 3, Wycherley, Engstrom, Gum and Inomata** teach all the limitations as in claim 2. Engstrom further teaches an operation state is a frequency mode for directing an electrical representation of a ringing signal to the electric circuitry for providing an illumination effect following the ringing signal (lighting up corresponding to sound, Engstrom, [39]). The examiner also notes that it is a well known concept of illuminating LED that is coincident with the frequency of a ringing signal (2003/0083110, Abstract and [13]).

5. Regarding **claim 4**, it is an apparatus claim corresponding to the method claim 1. Therefore it is rejected for the same reasons as claim 1.

6. Regarding **claim 5, Wycherley, Engstrom, Gum and Inomata** teach all the limitations as in claim 4. **Engstrom** further teaches said connector pins are arranged in line in an equal distance (421 of Fig. 4a).

7. Regarding **claim 6, Wycherley, Engstrom, Gum and Inomata** teach all the limitations as in claim 5. Although they fail to teach that the connector pins are arranged at the rear side of the cover part, changing the location from the front to the rear of the cover does not change the functionality of the cover. Therefore, it would have been obvious for one of ordinary skill in the art to place the pins at the rear as a designer's choice to best fit the rest components of the cover.

8. Regarding **claim 9 and 10**, they are apparatus claims corresponding to the method claim 2 and 3. Therefore it is rejected for the same reasons as claims 2 and 3 respectively.
9. Regarding **claim 13**, it is a cover that corresponds to the exchangeable cover as claimed in claim 4. Therefore it is rejected for the same reason as claim 4.
10. Regarding **claim 27, Wycherley, Engstrom, Gum and Inomata** teach the method of claim 26 wherein the operating mode is a pulse mode, a PWM mode or a frequency mode (Engstrom, [39]).
11. Regarding **claim 28, Wycherley, Engstrom, Gum and Inomata** teach the terminal of claim 4 further comprising that the bi-directional (Engstrom, [23-24]) and bi-mode signal pin is used in a frequency mode, a PWM mode or a cover type indicator mode (Wycherley, [32-33]).
12. Regarding **claim 29, Wycherley, Engstrom, Gum and Inomata** teach the terminal of claim 4 further comprising the bi-directional and bi-mode signal pin being located in the cover part (Wycherley, [32-33]).
13. Claims **7-8 and 22-26** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Wycherley, Engstrom, Gum and Inomata** further in view of **Andrews** (US Patent No. 5911121).
14. Regarding **claim 7 and 8, Wycherley, Engstrom, Gum and Inomata** teach all the limitations as in claim 6 but do not teach the number to be three nor five. In an analogous art, Andrews teaches that there can be 2^n combinations of models that can be supported depending on n number of pins. Therefore, it would have been obvious for

one of ordinary skill in the art to choose 3 or 5 pins depending on the number of models the supplier would like to support (Col. 4, lines 17-20).

15. Regarding **claim 22, Wycherley, Engstrom, Gum and Inomata** teach the method of claim 1 further comprising that in the identification state the at least one connector pin measures a resistance value of the cover type indicator (Wycherley, [32-33]) and in the operation state the at least one connector pin is used for the transfer of data between the wireless terminal and the cover part (Engstrom [23-24]).

16. Regarding **claim 23, Wycherley, Engstrom, Gum and Inomata** teach the method of claim 1 except that when the at least one connector pin is in the identification state, all other pins driving the at least one connector pin are set to a high impedance. In an analogous art, **Andrews** teaches that the engaged jumper pins are at low state while the non-engaged pins are at high-state which reads on high impedance (C4 L18-21). Therefore, it would have been obvious for one of ordinary skill in the art to incorporate this teaching so that the circuit can distinguished which pin is being used.

17. Regarding **claim 24, Wycherley, Engstrom, Gum and Inomata** teach the method of claim 1 further comprising, after identifying the type of cover, selecting a data mode corresponding to the identified cover type (Wycherley, [18, 32, 33, 42]). But they do not teach the step of setting a corresponding power supply level to be supplied by another one of the connector pins. In an analogous art, **Andrews** teaches different detected cover type results in different levels of voltage level (C3 L63 - C4 L50). Therefore it would have been obvious for one of ordinary skill in the art at the time of the invention to combine the above references with Andrews' teaching of setting different

power levels to different covers to save battery because one cover type may require more power/battery than others.

18. With further regard to **claim 25, Wycherley, Engstrom, Gum and Andrews** teach the method of claim 1 further comprising identifying that the cover is intelligent (The examiner notes intelligent is a subjective term, a cover with screensaver or one of the additional feature maybe considered as intelligent, thus by identifying the type of cover, Wycherley broadly teach the concept of identifying whether a cover is intelligent or not, [29]) and defining a digital interface (screen saver [21-22]) and power scheme (Andrews, C3 L63 - C4 L50).

19. Regarding **claim 26, Wycherley, Engstrom, Gum and Inomata** teach the method of claim 1 further comprising identifying that the cover is not intelligent (The examiner notes intelligent is a subjective term, a cover without a screensaver or one of the additional feature maybe considered as "not intelligent", thus by identifying the type of cover, Wycherley broadly teach the concept of identifying whether a cover is intelligent or not, [29]) and defining a digital interface (screen saver [21-22]) and power scheme (Andrews, C3 L63 - C4 L50).

20. Claims **16-18** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Wycherley, Engstrom, Gum and Inomata** further in view of **White** (US Pub No. 2005/0026643).

21. Regarding **claim 16**, Wycherley, Engstrom, Gum and Inomata teach all the method according to claim 1 except running a program stored in a memory located in the user exchangeable cover part located in a processor of the user exchangeable

cover part. In an analogous art, White teaches the missing limitation (para. 66-72). Therefore, it would have been obvious for one of ordinary skill in the art at the time of the invention to combine Wycherley, Engstrom and Gum's teaching with White's teaching of running a program stored in a memory of the cover part because this combination would allow users to add not only the plain read-only data but also actual additional fun software to be run by a processor from the cover.

22. Regarding **claim 17**, it is an apparatus that corresponds to the exchangeable cover method claim 16. Therefore, it is rejected for the same reason as claim 16.

23. Regarding **claim 18**, it is a method that corresponds to the exchangeable cover method claim in 16. Therefore it is rejected for the same reason as claim 16.

24. Claims **21** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Wycherley, Engstrom, Gum and Inomata** further in view of **White** (US Pub No. 2005/0026643).

25. With further regard to claim **21**, Andrews, White, Gum and Lee teach the method of claim 1, except the executable program is a music file or gaming file ([0009, 0079, 0082, 0084]). In an analogous art, White teaches the missing limitation. Therefore, it would have been obvious to combine said references with White's teaching of the music file or gaming file to make the cover a more fun-to-own facelet.

26. Claims **19** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Wycherley, Engstrom, Gum and Inomata** further in view of **Pulver** (US Pub No. 2002/0094776).

27. Regarding **claim 19**, Wycherley, Engstrom, Gum and Inomata teach all the limitations of a wireless communication terminal according to claim 4, wherein the connector pin operates in a frequency mode (Engstrom, [39]) and a cover type indication-mode ([Wycherley, [32,33]]). However, they do not specifically teach that the pin is configured to operate in a pulse width modulation mode. In an analogous art, Pulver teaches a connector having pin configured to operate in PWM mode to send data ([0029]). Therefore, it would have been obvious for one of ordinary skill in the art at the time of the invention to combine the above references with **Pulver's** teaching of the PWM to allow the transferring of data.

28. Claims **11 and 14** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Wycherley, Engstrom, Gum and Inomata** further in view of **Zhao** (Patent No. 2004/0204135)

29. Regarding **claims 11 and 14**, Wycherley, Engstrom, Gum and Inomata teach all the limitations as in claim 4 and 13 respectively. However, they fail to teach said set of tones and/or sound effects comprise music instrument digital interface tones. In an analogous art, **Zhao** teaches ring tones in the form of MIDI (6, 18, 25, 13 and 18). Therefore, it would have obvious for one of ordinary skill in art at the time of invention to

add the MIDI tone as another plus feature into the fascia to make the product more marketable.

30. Claims **20** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Wycherley, Engstrom, Gum and Inomata** further in view of **Lee** (Patent No. 2004/0202858)

31. Regarding **claim 20, Wycherley, Engstrom, Gum and Inomata** teach the method of claim 1, White further teaches the loading at least one executable program in the cover part to the wireless terminal, the executable program being configured to operate an application stored in a processor in the wireless terminal ([0009-0010, 0043, 0049, 0058-0064]). However, White fail to teach that the storage device is in a form of a multi-media memory card. In an analogous art, **Lee** teaches storage data is stored in an external expansion card such as Multimedia Card to satisfy the ever increased functional requirements ([0003, 0011]). Therefore, it would have been obvious for one skill in the art at the time of the invention to modify Andrews, White, and Gum's teaching of the removable casing to also include an extension card containing the executable program so that additional data/software can be added or updated more easily.

Response to Arguments

Applicant's arguments with respect to claim 1-11, 13-14, 16-29 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DUNG LAM whose telephone number is (571) 272-6497. The examiner can normally be reached on M - F 9 - 5:30 pm, Every Other Friday Off.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Harper can be reached on (571) 272-7605. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Dung Lam/
Examiner, Art Unit 2617

/VINCENT P. HARPER/
Supervisory Patent Examiner, Art Unit 2617